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10/076,367

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Dennis S. Lee

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12/27/2007

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EXAMINER

MILLS, DONALD L

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/076,367

Applicant(s)

LEE ET AL.

Examiner

Donald L. Mills

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 19-28, 42-47, 61 and 75-78 is/are rejected.
- 7) ☒ Claim(s) 6-18, 29-41, 48-60 and 62-74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 61-74, 76, and 77 are objected to because of the following informalities:
2. Regarding claims 61-74, 76, and 77, the claims merely recite a number of structures capable of performing a respective function (for example, "a receiving unit configured to receive an incoming data packet,"); however, a positive limitation reciting the execution of any such function is missing (for example, "wherein when a packet is received..."). Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 47-60 and 78 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 47-60 and 78, the claims specify a nonfunctional descriptive material that is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal thus it is not statutory. Should the claim be amended to reflect that such a process is performed when the code on the computer readable medium is executed the claims would become statutory.

Claim Rejections - 35 USC § 102

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 19-28, 42-47, 61, and 75-78 are rejected under 35 U.S.C. 102(b) as being anticipated by Coss et al. (US 6,154,775), hereinafter referred to as Coss.

Regarding claims 1, 24, 47, 61, and 75-78 Coss discloses a method and apparatus for a computer network firewall with dynamic rule processing with the ability to dynamically alter the operations of rules, which comprises:

Receiving an incoming data packet (Referring to Figure 2, firewall 212 receives packets;)

Parsing the incoming data packet to obtain a portion of the incoming data packet

(Referring to Figure 3, firewalls 212 and 213 parse packets;)

Comparing said portion with rules stored in a rule table, where each rule of said rules specifies a set of actions (Referring to Figure 3, rules are applied sequentially until a rule is found which is satisfied by the packet. See column 4, lines 27-29;)

Selecting a match between said portion and a particular rule of said rules; and executing a particular set of actions specified by said particular rule (Referring to Figure 3, a packet from source host A to destination host D and representing mail will be dropped under rule 20. See column 4, lines 31-34;)

Wherein each rule field of said rules includes a mask and a selection flag used in the comparing said portion with each rule (Referring to Figures 8 and 9, a dependency mask is defined in a rule for the first packet of a network session using information in the packet, the

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source interface for that packet and one or several dependency conditions that must be met for the packet to pass. A "hit count" (selection flag) is utilized to indicate the number of matches which must be found in the cache for the specified action to be taken. See column 7, lines 28-61.)

Regarding claims 2 and 25, Coss discloses *wherein the step of comparing said portion with rules stored in a rule table comprises comparing specific fields of the incoming data packet with corresponding rule fields in all of the rules stored in the rule table* (Referring to Figure 3, rules are applied sequentially until a rule is found which is satisfied by the packet. See column 4, lines 27-29.)

Regarding claims 3 and 26, Coss discloses *wherein specific fields of the packet include a source port identification number and Layer 2 to Layer 7 headers* (Referring to Figures 3 and 4, the session key includes the source port and corresponding headings from different layers, as well as, the packet including such headers. See column 5, lines 59-65.)

Regarding claims 4 and 27, Coss discloses *wherein the step of selecting a match between said portion and a particular rule of said rules comprises selecting a highest priority rule of said rules to be the particular rule when more than one rule of said rules match said portion* (Referring to Figure 3, a packet from source host A to destination host D and representing mail will be dropped under rule 20 (highest priority). See column 4, lines 31-34.)

Regarding claims 5 and 28, Coss discloses *wherein the highest priority rule is determined by the addresses of said rules within said rules tables* (Referring to Figure 3, a packet from source host A to destination host D and representing mail will be dropped under rule 20 (highest priority). See column 4, lines 31-34.)

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Regarding claims 19 and 42, Coss discloses *wherein the step of executing a particular set of actions specified by said particular rule comprises modifying a header of the incoming data packet, forwarding the incoming data packet to a destination address, or updating a management information register* (Referring to Figures 3, 4, 5A and 5B, when a rule applies to the packet calls for an address change to a proxy or for insertion of one packet into another (“tunnel option”), the process returns to step 505 for processing based on the changed destination. See column 6, lines 66-67 and column 7, lines 1-3.)

Regarding claims 20 and 43, Coss discloses *wherein the step of updating a management information register comprises providing a bitmap used to increment individual counters indicating a forwarding, dropping, or processing of certain types of packets* (Referring to Figures 3, 4, 5A and 5B, when a rule applies to the packet calls for an address change to a proxy or for insertion of one packet into another (“tunnel option”), the process returns to step 505 for processing based on the changed destination. See column 6, lines 66-67 and column 7, lines 1-3.)

Regarding claims 21 and 44, Coss discloses *wherein said particular set of actions comprises setting a flow identification for the incoming data packet such that the packet is classified according to a class of service* (Referring to Figure 3, the category based upon service group or protocol/destination port/source port See column 4, lines 46-47.)

Regarding claims 22 and 45, Coss disclose *wherein the step of comparing said portion with rules stored in a rule table comprises comparing said portion with rules stored in a rule table implemented in a static random access memory, with three types of rule fields and action fields all stored in each row of the static random access memory* (Referring to Figure 3, rules are

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applied (in memory) sequentially until a rule is found which is satisfied by the packet comprises multiple rule fields. See column 4, lines 27-29.)

Regarding claims 23 and 46, Coss discloses *wherein the step of comparing said portion with rules stored in a rule table comprises comparing said portion with rules stored in a rule table implemented in a content addressed memory, where each entry of the content addressed memory includes a selection flag and a validity bit* (Referring to Figure 3, rules are applied, in memory, sequentially until a rule is found which is satisfied by the packet comprises multiple rule fields. See column 4, lines 27-29.)

Allowable Subject Matter

7. Claim 6-18, 29-41, 48-60, and 62-74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed 09 October 2007 have been fully considered but they are not persuasive.

Rejection Under 35 USC 102

On page 27 of the remarks, regarding claims 1 and 24, the Applicant argues Coss does not disclose *each rule of said rules specifies a set of actions*. The Examiner respectfully disagrees. A rule action comprises either, "pass," "drop" or proxy (See column 4, lines 46-49,)

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which in and of itself is a "set of actions." Therefore, Coss discloses *each rule of said rules specifies a set of actions*.

On pages 27 and 28 of the remarks, in response to applicant's argument that there is no suggestion to combine references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. However, no such obviousness rejection was presented in the previous office action.

On page 28 of the remarks, regarding claims 1 and 24, the Applicant argues Coss does not disclose *wherein each rule field of said rules includes a mask and a selection flag used in the comparing said portion with each rule*. The Examiner respectfully disagrees. Claims are read in the broad literal reasonable fashion. Coss discloses a dependency mask that is defined in a rule for the first packet of a network session using information in the packet, the source interface for that packet and one or several dependency conditions that must be met for the packet to pass. A "hit count" (selection flag) is utilized to indicate the number of matches which must be found in the cache for the specified action to be taken (used in comparing the portion with each rule) (See column 7, lines 28-61.) In addition, the claims do not set forth structural or functional limitations which further define the terms "mask" and "selection flag;" therefore, any number of possible interpretations are possible. In this particular case, the Examiner interprets the process of counting packets and dependency mask as meeting the limitation of a "mask" and "selection flag" that is utilized for comparing a portion of a packet with each rule. Therefore, Coss

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discloses *wherein each rule field of said rules includes a mask and a selection flag used in the comparing said portion with each rule.*

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donald L. Mills whose telephone number is 571-272-3094. The examiner can normally be reached on 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Donald L Mills/

December 20, 2007


CHI PHAM
SUPERVISORY PATENT EXAMINER

12/26/07